Transplanting

May | 2022

Factsheet about integrated weed management

WAGENINGEN INVERSITY & RESEARCH

Introduction

If economically feasible, crops such as onions and cabbage can be transplanted to give the crop a head start on the weeds¹. By transplanting, the crop becomes more competitive and the critical period in which crop-weed competition is very important is shortened.

Applicability

Transplanting is most suitable for vegetable crops, as for some vegetable crops transplanting is already a standard practice. Crops like onion, cabbage and leek are commonly transplanted to improve their competitive strength.

The size difference between crop and weeds as a result from transplanting, facilitates mechanical weeding operations. In addition, it decreases the period of time that there is an open crop canopy, so weeds have less opportunity to emerge at open spots.



Figure 1| Onion plants sown with 5-6 seeds together, ready for planting



Figure 2| Transplanted onion crop allowing for harrowing at the early crop stages.

Efficacy

The most vulnerable period for weed development is the period from planting or sowing until the achievement of soil cover >80%. Instead of sowing directly in the field the seeds are sown in trays and the plants are raised indoors. Planting instead of sowing reduces the duration of the vulnerable period by about a month. Transplanted crops require one-third of the hand-weeding hours needed for sown crops.

Costs

- Planting material is more expensive as a result of the cultivation of seedlings that often takes place in greenhouses, followed by transportation.
- Investment in planting machines is needed.
- Transplanting is often more labour intensive compared to direct seeding.

Planting of crops is quite expensive, but in some cases transplanting can also reduce other costs:

- pre-sprouted potato reach on average two weeks earlier the complete soil cover, that saves one soil preparation^{1|}.
- As a result of the more rapid growth and better distribution of the plants fewer plants are required for a good yield.

1| Schans, D., Bleeker, P., Molendijk, L., Plentinger, M., Weide, R., & Lotz, B. Praktisch onkruidbeheer.



Equipment

- Planting machine
- Increased labour
- Good quality planting material

Extra information

See <u>https://iwmpraise.eu/publications/</u> for more information on integrated weed management.

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Figure 3| *Planting crops requires extra labour to operate the planting machine.*